

DETAILED ACTION

Response to Applicants' Remarks

1. Applicant's arguments filed 10/11/2011 with respect to the rejection(s) of claim(s) 16-34 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made below.

Claims

2. Claims 28 and 29 are objected to because of the following informalities:

[Claim 28, line 2]: --swell able—should be amended to --swellable--.

[Claim 29, line 2]: --swell able—should be amended to --swellable--.

Appropriate correction is required.

35 U.S.C. 112 Rejection

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 24-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More specifically, claims 24-26 claim molecular weights but do not specify whether the molecular weights are number average molecular weights (Mn) or weight average molecular weights (Mw). Herein, the molecular weights are interpreted to be either Mw or Mn.

Appropriate clarification and correction is required.

35 U.S.C. 102 Rejection

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 16-20, 22, 23, 27, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Chiba et al. (US PUB 2002/0077420 A1).

7. Regarding claim 16, Chiba et al. teaches an adhesive composition [claim 8] comprising, as a rubbery elastomeric matrix [0026],

a) a block-copolymer and

b) a homopolymer,

wherein the block copolymer contains (i) at least one block of a polymerized mono alkenyl arene monomer and (ii) at least one block of a linear or branched, saturated hydrocarbon chain [styrene-isobutylene-styrene; 0073], and

wherein the homopolymer is a linear or branched, saturated hydrocarbon chain made from the same monomer as the at least one block of a linear or branched, saturated hydrocarbon chain [isobutylene polymer; 0073].

8. Regarding claim 17, Chiba et al. teaches the at least one block of a linear or branched, saturated hydrocarbon chain is isobutylene and the homopolymer comprises

isobutylene, wherein both have the same chemical structure since they are both composed of isobutylene [0073].

9. Regarding claim 18, Chiba et al. teaches the block-copolymer is SIBS (styrene-isobutylene-styrene), which is a triblock copolymer [0073].

10. Regarding claim 19, Chiba et al. teaches the block copolymer is a triblock copolymer [0073].

11. Regarding claim 20, Chiba et al. teaches the block copolymer is a triblock copolymer [0073].

12. Regarding claim 22, Chiba et al. teaches the polymerized mono alkenyl arene monomer is polystyrene [0073].

13. Regarding claim 23, Chiba et al. teaches the linear or branched, saturated hydrocarbon chain is polyisobutylene [0073].

14. Regarding claim 27, Chiba et al. teaches using 100 weight parts of SIBS and 50 weight parts of isobutylene polymer [0073]. Thus, the composition contains about 67 wt% of SIBS, wherein the amount is within the claimed range of 1-70% by weight, and about 33 wt% isobutylene polymer, wherein the amount is within the claimed range of up to 70% by weight.

15. Regarding claim 30, Chiba et al. teaches the composition further comprising a tackifier resin [0033].

35 U.S.C. 103 Rejection

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

19. Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiba et al. (US PG PUB 2002/0077420 A1) as applied to claim 16 above.

20. Regarding claims 24 and 25, Chiba et al. teaches the SIBS block copolymer has a number average molecular weight of 89,000 but is silent with respect to the at least one styrene block having a molecular weight between 1,000 and 10,000 (**claim 24**) and the at least one block consisting of a linear or branched, saturated hydrocarbon chain, or isobutylene, having a molecular weight between 20,000 and 100,000 (**claim 25**).

21. However, Chiba et al. teaches that the weight ratio of aliphatic hydrocarbon block content to non-aliphatic hydrocarbon block content in the block copolymer is 5/95 to 95/5 [0018]. Thus, the styrene blocks in SIBS can have a number average molecular weight of 4,450 to 84,550 [$0.05 \times 89,000 = 4,450$; $0.95 \times 89,000 = 84,550$], wherein the range overlaps the claimed range of between 1,000 and 10,000 (claim 24), and the isobutylene block in SIBS can have a number average molecular weight of 4,450 to 84,550 [$0.05 \times 89,000 = 4,450$; $0.95 \times 89,000 = 84,550$], wherein the range overlaps the claimed range of between 20,000 and 100,000.

22. It would have been obvious to one of ordinary skill in the art at the time the invention was made for the styrene blocks in the SIBS block copolymer of Chiba et al. to have a number average molecular weight of 4,450 to 84,550 and for the isobutylene block to have a number average molecular weight of 4,450 to 84,550 since Chiba et al. teaches that the weight ratio of aliphatic hydrocarbon block content to non-aliphatic hydrocarbon block content in the block copolymer is 5/95 to 95/5.

23. Regarding claim 26, Chiba et al. teaches the isobutylene polymer has a number average molecular weight of 5,600 but is silent with respect to the molecular weight being between 20,000 and 100,000 (**claim 26**). However, Chiba et al. teaches the isobutylene polymer can have a number average molecular weight of 500 to 100,000 [0028], wherein the range encompasses the claimed range of 20,000 to 100,000.

24. It would have been obvious to one of ordinary skill in the art at the time the invention was made for the number average molecular weight of the isobutylene polymer of Chiba et al. to be from 500 to 100,000 since Chiba et al. teaches the isobutylene polymer can have a number average molecular weight of 500 to 100,000 [0028].

25. Claims 16-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaanbengaard et al. (US Pat. No. 6,558,792) further in view of Chiba et al. (US PGPUB 2002/0077420 A1).

26. Regarding claim 16, Vaanbengaard et al. teaches an adhesive composition [abstract] comprising a) a block copolymer elastomer, such as styrene-butadiene-styrene copolymer or styrene-isoprene-styrene copolymer [column 4, lines 39-41], and b) a rubbery homopolymer component that is preferably polyisobutylene [column 4, lines 28-31], wherein (i) styrene is a mono alkenyl arene monomer and (ii) butadiene or isoprene is a linear unsaturated hydrocarbon, and polyisobutylene is a branched, saturated hydrocarbon chain.

27. Regarding claim 18, 19, and 20, Vaanbengaard et al. teaches the block copolymer can be styrene-butadiene-styrene copolymer (SBS) or styrene-isoprene-styrene copolymer (SIS) [column 4, lines 39-41], wherein SBS copolymer and SIS copolymer are triblock copolymers.

28. Regarding claim 21, Vaanbengaard et al. teaches the block copolymer may be a physically cross-linked elastomer [column 4, lines 32-33].

29. Regarding claim 22, Vaanbengaard et al. teaches the block copolymer can be styrene-butadiene-styrene copolymer or styrene-isoprene-styrene copolymer [column 4, lines 53-55], wherein styrene is an alkenyl arene monomer.

30. Regarding claim 23, Vaanbengaard et al. teaches the block copolymer contains intermediate monomers such as butadiene and isoprene, wherein butadiene and isoprene are linear, unsaturated hydrocarbons. Vaanbengaard et al. further teaches the homopolymer is polyisobutylene, wherein isobutylene is a linear, saturated hydrocarbon.

31. Regarding claim 27, Vaanbengaard et al. teaches the adhesive composition comprises 0-10% by weight of cohesive strengthening agent or block copolymer [column 3, lines 58-59], wherein 0-10% by weight overlaps the claimed range of 1-70% by weight, and 30-60% by weight of rubber component or polyisobutylene [column 3, line 55], wherein 30 to 60% by weight is within the claimed range of up to 70% by weight.

32. Regarding claim 28, Vaanbengaard et al. teaches the adhesive composition further comprises one or more water-swellaable hydrocolloids [column 3, lines 14-15].

33. Regarding claim 29, Vaanbengaard et al. teaches the adhesive composition comprises 30-60% by weight of one or more hydrocolloids [column 3, lines 55-56], wherein 30-60% by weight is within the claimed range of 5-60% by weight.

34. Regarding claim 30, Vaanbengaard et al. teaches the adhesive composition further comprises a tackifier resin [column 4, line 48].

35. Regarding claim 31, Vaanbengaard et al. teaches an ostomy appliance including an adhesive wafer comprising the adhesive composition of claim 16 [column 1, line 18].

36. Regarding claim 32, Vaanbengaard et al. teaches an ostomy appliance including an adhesive wafer comprising the adhesive composition of claim 19 [column 1, line 18].

37. Regarding claim 26, Vaanbengaard et al. teaches the polyisobutylene homopolymer is Vistanexx from Exxon Chemical Co. as grade LM-MH [column 5, lines 46-47] but is silent with respect to the molecular weight being between 20,000 and 100,000. However, since Vannbengaard et al. uses the same isobutylene polymer as the instant invention, wherein the instant invention uses Vistanexx from Exxon Chemical Co. as grade LM-MH as well [Page 15, lines 28-29], there is reasonable basis to believe that the molecular weight of the polyisobutylene of Vaanbengaard et al. would have a molecular weight within the claimed range. Since the PTO cannot perform experiments, the burden is shifted to the applicant to show an unobvious difference. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980).

38. Vaanbengaard et al. teaches the block copolymer is an elastomer selected from block copolymers comprising styrene-butadiene-styrene copolymer or styrene-isoprene-styrene [column 4, lines 37-42], wherein butadiene and isoprene are linear, unsaturated hydrocarbons, but is silent with respect to the block copolymer containing at least one block of a linear or branched, *saturated* hydrocarbon (claim 16), wherein at least one styrene block has a molecular weight of between 1,000 and 10,000 (**claim 24**), and the saturated hydrocarbon block has a molecular weight of between 20,000 and 100,000 (**claim 25**). However, in the same field of producing pressure sensitive adhesives, Chiba et al. teaches using SIBS (styrene-isobutylene-styrene) elastomer because it has low moisture permeability [0058], wherein isobutylene in SIBS is a saturated hydrocarbon chain. Thus, the isobutylene in SIBS of Chiba et al. and the polyisobutylene of Vaanbengaard et al. have the same chemical structure since they are the same compound (**claim 17**).

39. Chiba et al. further teaches the SIBS block copolymer has a number average molecular weight of 89,000, wherein the weight ratio of aliphatic hydrocarbon block content to non-aliphatic hydrocarbon block content is 5/95 to 95/5 [0018]. Thus, the styrene blocks in SIBS can have a number average molecular weight of 4,450 to 84,550 [$0.05 \times 89,000 = 4,450$; $0.95 \times 89,000 = 84,550$], wherein the range overlaps the claimed range of between 1,000 and 10,000 (claim 24), and the isobutylene block in SIBS can have a number average molecular weight of 4,450 to 84,550 [$0.05 \times 89,000 = 4,450$; $0.95 \times 89,000 = 84,550$], wherein the range overlaps the claimed range of between 20,000 and 100,000.

40. Since Vaanbengaard et al. endeavors to produce a pressure sensitive adhesive composition resistant to biological fluids [abstract], it would have been obvious to one of ordinary skill in the art at the time the invention was made to use SIBS of Chiba et al. as the elastomer of Vaanbengaard et al. for the benefit of obtaining an adhesive having low moisture permeability.

41. Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaanbengaard et al. further in view of Chiba et al. as applied to claims 16 and 19 above, further in view of Bellingham et al. (US Pat. No. 5,109,874).

42. Regarding claims 33 and 34, Vaanbengaard teaches using an adhesive in a wound dressing [column 1, line 18] but is silent with respect to the wound dressing comprising a water-impervious backing layer or film. However, it is well known in the art for a wound dressing to contain a water-impervious film in order to protect the wound from wetness and infection. Bellingham et al. for example teaches a wound patch containing a gas and liquid impermeable member that is adhesively sealed to the skin around a wound to prevent the entering or exiting of gases and liquids through the wound, which allows the user to engage in physical activity without concern for contaminants entering or leaving the wound area.

43. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Vaanbengaard and Chiba et al. with Bellingham for the expected benefit of protecting wounds from contamination.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIZABETH ENG whose telephone number is (571)270-7743. The examiner can normally be reached on Mondays through Fridays from 9:30 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is (571) 270-8743.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://portal.uspto.gov/external/portal>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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